

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Prior Group Art Unit: 2858
Prior Examiner: J. Hollington

In Re NEW PATENT APPLICATION Of:

Applicant: Mikio OHTAKI

Appln. No.: To Be Assigned
Divisional Appl. of 09/434,490

Filed: July 16, 2001

For: SEMICONDUCTOR DEVICE
TEST APPARATUS

Atty Ref.: KAN 120D1

**PRELIMINARY
AMENDMENT**

July 16, 2001

Commissioner for Patents
Washington, D.C. 20231

Sir:

Preliminary to examination, please amend the application as follows:

IN THE TITLE

Please change the title to --SEMICONDUCTOR DEVICE TEST METHOD--

IN THE SPECIFICATION

Page 1, before line 1, insert --This is a Divisional of Applicant's
copending Application Serial No. 09/434,490.--

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IN THE CLAIMS

Please cancel claims 1-20, and add new claims 21-41 as follows:

--21. A method for manufacturing semiconductor devices, the method comprising:

- providing a semiconductor wafer with a wafer surface having a plurality of circuit elements formed thereon;
- forming on the wafer surface a plurality of electrodes connected to the circuit elements;
- inserting the wafer into a burn-in apparatus;
- testing the circuit elements in the burn-in apparatus for electrical functions, through the electrodes; and
- dividing the wafer into a plurality of semiconductor devices.

22. A method according to claim 21, wherein said dividing includes dividing the wafer after said testing.

23. A method according to claim 22, further comprising:

- mounting the wafer on a circuit board with an elastic sheet interposed therebetween, including electrically connecting wiring circuits on the circuit board to the electrodes on the wafer through conductive elastic portions of the elastic sheet.

24. A method according to claim 23, further comprising:

- disposing over the wafer a holding plate having a through hole; and

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pressing the wafer on the circuit board with the holding plate.

25. A method according to claim 22, further comprising:

mounting the wafer on a circuit board with a film interposed therebetween, including electrically connecting wiring circuits on the circuit board to the electrodes on the wafer through bump electrodes in the film.

26. A method according to claim 25, further comprising:

disposing over the wafer a holding plate having a through hole; and pressing the wafer on the circuit board with the holding plate. .

27. A method according to claim 21, wherein the plurality of electrodes are ball-type.

28. A method for manufacturing semiconductor devices, the method comprising:

providing a semiconductor wafer having a plurality of circuit elements formed on a surface thereof;

forming on the wafer surface a plurality of electrodes connected with the circuit elements;

coating the wafer surface with a resist film, the plurality of electrodes being exposed through the resin film;

inserting the wafer into a burn-in apparatus;

testing the plurality of circuit elements for electrical functions in the burn-in apparatus through the plurality of electrodes; and
dividing the wafer into the plurality of semiconductor devices.

29. A method according to claim 28, wherein said dividing includes dividing the wafer into the plurality of semiconductor devices after said testing.

30. A method according to claim 29, further comprising:
mounting the wafer on a circuit board by interposing an elastic sheet between the wafer and the circuit board, including electrically connecting wiring circuits on the circuit board to the plurality of electrodes with conductive elastic portions of elastic sheet.

31. A method according to claim 30, further comprising:
providing over the wafer a holding plate having a through hole, and
pressing the wafer on the circuit board with the holding plate.

32. A method according to claim 29, further comprising:
mounting the wafer on a circuit board by interposing between the wafer and the circuit board a film having bump electrodes, such that the bump electrodes electrically connect wiring circuits on circuit board with the plurality of electrodes.

33. A method according to claim 32, further comprising:

providing over the wafer a holding plate having a through hole, and
pressing the wafer on the circuit board with the holding plate.

34. A method according to claim 28, wherein the plurality of electrodes are ball-type.

35. A method for manufacturing a plurality of semiconductor devices, the method comprising:

providing a semiconductor wafer having formed on a surface thereof a plurality of circuit elements;

forming on the wafer surface a plurality of electrodes connected with the circuit elements;

coating the wafer surface with a resin, wherein the plurality of electrodes are exposed from the resin;

disposing the wafer into a burn-in apparatus;

testing the plurality of circuit elements for electrical functions through the plurality of electrodes, in the burn-in apparatus;

dividing the wafer into a plurality of semiconductor devices along sides of the arranged circuit elements.

36. A method according to claim 35, including performing said dividing after said testing.

37. A method according to claim 36, further comprising:

mounting the wafer on a circuit board by interposing an elastic sheet between the wafer and the circuit board, including electrically connecting wiring circuits on the circuit board to the plurality of electrodes with conductive elastic portions of elastic sheet.

38. A method according to claim 37, further comprising:

providing over the wafer a holding plate having a through hole, and pressing the wafer on the circuit board with the holding plate.

39. A method according to claim 36, further comprising:

mounting the wafer on a circuit board, including between the wafer and the circuit board interposing a film having bump electrodes so as to electrically connect wiring circuits on the circuit board to the plurality of electrodes on the wafer with the bump electrodes.

40. A method according to claim 39, further comprising:

providing over the wafer a holding plate having a through hole, and pressing the wafer on the circuit board with the holding plate.

41. A method according to claim 35, wherein the plurality of electrodes are ball-type.--

REMARKS

The title has been amended to correspond to the claimed invention. The specification has been amended to make reference to the parent application. Claims 1 -20 have been cancelled and claims 21-41 have been added. Examination of the amended application is respectfully requested.

Respectfully submitted,



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July 16, 2001
Date

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